

TESTIMONY OF JOSE S. DIZON, P.E.
GENERAL MANAGER, PANIOLO POWER COMPANY, LLC A SUBSIDIARY OF PARKER RANCH, INC.
TO THE SENATE COMMITTEES ON TRANSPORTATION AND ENERGY
AND WATER, LAND AND AGRICULTURE

February 9, 2016
2:45pm
State Capitol, Room 229

MEASURE: S.B. No. 3088
Title: RELATING TO HYDROELECTRIC POWER

Chair Inouye, Gabbard, and Members of the TRE and WLA Committees:

Paniolo Power Company, LLC and Parker Ranch, Inc. fully support Senate Bill 3088.

Pumped Storage Hydro (PSH) provides the ability to time shift energy and loads to better correlate with the output from intermittent renewable generators such as wind and solar PV; in other words, excess renewable energy that would otherwise be curtailed by the utility is stored for later use to offset fossil fuel-fired generation.

While larger battery systems are starting to be built, batteries used for long duration, utility scale applications should still be considered in the development phase as battery companies are simultaneously attempting to improve the chemical compositions, storage capacity, operating life, disposal issues, and costs of batteries.

PSH, on the other-hand, is one of the oldest energy storage technologies, with the earliest plant built in Switzerland in 1904 and the first plant in the United States built in 1929. Worldwide, PSH comprised 99% of all existing energy storage installations and totals approximately 127 gigawatts (GW). PSH installations in the United States total approximately 22 gigawatts (GW) which equates to approximately 95% of all energy storage capacity in the United States.

Just as battery technologies have begun to advance, PSH technology has also advanced. Modern PSH, which incorporate adjustable speeds or ternary technology (hydraulic bypass systems), can now provide the same fast response voltage and frequency regulations services as batteries.

PSH would play a pivotal role in farming and ranching. The water within the reservoirs could be used for irrigation for row crop farming or the greening of pastures for locally-raised cattle development. This is certainly within the State's and Parker Ranch's purview of sustainability by addressing the ag-water-energy-food nexus.

PSH would also provide certainty of supply. Because battery technology is still developing, the risks of the technology should be discounted; for example, the countries where lithium is produced include China, Argentina, Brazil, and Australia. What if these countries were to hoard lithium? What would happen to lithium prices if our nation moves to electrify transportation? Everyone is hopeful these issues would be resolved. In Hawaii we cannot rely on utilities on the mainland if we make a mistake, so it may be prudent to delay utility-scale applications of batteries to the future until the technology is a little more mature. Conversely, PSH is a proven technology that is available now.



Finally, Paniolo Power and Parker Ranch asked its global partners, Siemens and Booz Allen Hamilton to review the recently rejected Power Supply Improvement Plan of HELCO and to demonstrate if lower costs to customers was possible. A plan that included 75MW of wind and 20MW of PSH, which meets the Department of Energy definition of small hydropower facility, was cheaper for customers than the PSIP plan developed by HELCO and resulted in tremendously greater environmental benefits. Paniolo Power is currently working with the PUC and parties in the PSIP docket to share our findings and to demonstrate the importance and need for PSH technology on Hawaii Island and the neighbor islands.

Paniolo Power believes, as your committees do, that small PSH facilities as defined by the U.S. Department of Energy developed on agricultural lands will provide tremendous benefit in firming intermittent renewable energy, reducing the curtailment of existing and future renewable energy, providing irrigation opportunities for farming and ranching, and increasing the sustainability of Hawaii.

Thank you for the opportunity to testify.

Kaala Coleman

From: mailinglist@capitol.hawaii.gov
Sent: Monday, February 08, 2016 9:09 PM
To: TRE Testimony
Cc: gottlieb@hawaii.rr.com
Subject: *Submitted testimony for SB3088 on Feb 9, 2016 14:45PM*

SB3088

Submitted on: 2/8/2016

Testimony for TRE/WLA on Feb 9, 2016 14:45PM in Conference Room 229

Submitted By	Organization	Testifier Position	Present at Hearing
Alan Gottlieb	Ponoholo Ranch Limited	Support	No

Comments:

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